

## **BLOOMBERG NEWS**

### **Chemical's Link to Cancer Backs Up Brockovich Claims (Update2)**

By John Lauerma

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May 16 (Bloomberg) -- Drinking water containing a chemical used in electroplating has been linked to cancer for the first time, confirming a claim environmental whistle-blower Erin Brockovich leveled against Pacific Gas & Electric Co. in 1993.

Government researchers found ``clear evidence" linking the chemical, chromium-6, to oral and intestinal cancers in rats and mice, the U.S. National Toxicology Program said today in a study.

The two-year study of male and female animals in two species is the standard to determine whether a chemical is carcinogenic. Brockovich hailed the study, saying it refutes the accusations of legal opponents who said she relied on ``junk science."

``Hexavalent chromium is a poison and you shouldn't be drinking it," she said today in a telephone interview from West Lake Village, California. ``It wasn't a stretch for me to think that when people drink poison, they might get cancer."

The study was requested by the California Congressional Delegation, the California Environmental Protection Agency, and the California Department of Health Services. Four groups of animals drank water containing different dose levels of chromium- 6, along with a control group that drank chemical-free water.

``We found cancers in the oral cavity of rats, on the palate and the tongue," said Michelle Hooth, the toxicologist who ran the study, in a telephone interview. ``In mice we saw tumors in the small intestine, and they increased with higher doses in both males and females."

The National Toxicology Program is a joint program of the U.S. Public Health Service and the National Institutes of Health.

#### **Liver Damage**

The animals that received the highest dose drank less water and had lower average body weights than others, probably because of the taste of the water, the study said. Some animals that received high doses also suffered liver damage.

In a 1993 civil suit, Brockovich accused San Francisco-based Pacific Gas & Electric, California's largest utility, of using hexavalent chromium or a chromium-based additive at three of its plants in the state's Mojave Desert from 1951 to 1982, and then disposing of its waste water in unlined ponds near the plants.

The U.S. is dotted with sites where people have been exposed to hexavalent chromium in

drinking water, said Brockovich, who researches environmental cases for the firm of Masry & Vititoe, and has her own company, Brockovich Research and Consulting. ``I have been involved in putting cases together in this area since 1991," she said. ``I would anticipate that now that some studies have made the link, you'll see more of them."

Inhaling hexavalent chromium has already been linked to lung cancer, said Hooth, the study leader. The U.S. Environmental Protection Agency's standard for the chemical in drinking water is 0.1 milligram per liter, said Dale Kemery, an agency spokesman. That standard is currently under review, he said.

``There's been considerable discussion on the health impacts of chromium in the scientific community, and there have been competing views on those questions," said Jon Tremayne, a spokesman for Pacific Gas & Electric. ``This study represents another data point that contributes to that discussion."

He added that the company will look to ``the scientists and experts in the field to help us get a full understanding of this research and what it means for everybody concerned."

Currently the EPA lists hexavalent chromium as a carcinogen only when inhaled, the EPA's Kemery said in an e-mail.

``Now that the NTP has released their final study, we will evaluate the results and determine whether the agency needs to update the existing health assessment," Kemery said.

### Poring Through Records

Brockovich had charged that the contaminated liquid leached into the local water supply, contributing to a rash of cancers among residents of Hinkley, California. Her story was dramatized in a 2000 Hollywood movie starring Julia Roberts as a legal researcher poring through medical and company records to link the mysterious cancers to water contamination.

Pacific Gas & Electric paid \$333 million in 1996 to settle those claims. PG&E Corp., the holding company that now owns the utility, also known as PG&E, paid an additional \$295 million to settle another set of claims regarding the contaminated water.

``At the end of the day, no lawsuit is worth it when you're sick from being exposed to a poison," Brockovich said. ``We need to identify the people who have been exposed, do what's right by them, and for God's sake clean it up."

## **REUTERS: Chromium in water can cause cancer: U.S. agency**

Wed May 16, 2007 10:14PM BST

WASHINGTON (Reuters) - A type of chromium sometimes found in drinking water causes cancer in laboratory animals when they drink it in water and it could be harmful to people, the U.S. National Institutes of Health said on Wednesday.

Hexavalent chromium, also called chromium 6, already has been shown to cause lung cancer when inhaled.

It is best known as the contaminant exposed by campaigner Erin Brockovich, whose battle against a polluter was dramatized in a movie of the same name.

High doses given to rats and mice in drinking water caused malignant tumors, the two-year study by the National Toxicology Program found.

"Previous studies have shown that hexavalent chromium causes lung cancer in humans in certain occupational settings as a result of inhalation exposure," said Michelle Hooth, who worked on the report. "We now know that it can also cause cancer in animals when administered orally."

The toxicology program, part of the National Institute of Environmental Health Sciences, was reviewing a compound called sodium dichromate dihydrate. Sodium dichromate dihydrate contains hexavalent chromium.

Hexavalent chromium compounds are often used in electroplating, leather tanning, and textile manufacturing and have been found in some drinking water sources, the NIH said.

The lowest doses given to the rats and mice in the study were 10 times higher than what humans could consume from the most highly contaminated water sources identified in California, the researchers said.

"We found that hexavalent chromium is absorbed from the gastrointestinal tract," Hooth said. "After it is orally administered, it is taken up by the cells in many tissues and organs."

Updated story from **Reuters** that includes an interview with Erin Brokovich

Thu May 17, 2007 11:02 AM IST

By Jill Serjeant

LOS ANGELES (Reuters) - A type of chromium highlighted in the film "Erin Brockovich" causes cancer in lab animals when they drink it in water, and it could be harmful to people, the U.S. National Institutes of Health said on Wednesday.

Hexavalent chromium, also called chromium 6, already has been shown to cause lung cancer when inhaled and is controlled by the Environmental Protection Agency as well as by states.

It is best known as the contaminant exposed by campaigner Erin Brockovich, whose battle against a polluter was dramatized in the May 2000 movie of the same name. "I am relieved and pleased and sorry because there are a lot of people who have ingested chromium 6," said Brockovich, who still works in Los Angeles as a legal consultant on environmental issues.

"It is high time but it is no surprise to me," she told Reuters. "This is a chemical that there have been ongoing arguments about, and now a third party has concluded that it can cause cancer by ingestion."

Environmentalists, who have been fighting for decades for tighter limits on how much chromium can be present in drinking water, said the findings offered a basis for such restrictions.

High doses of chromium 6 given to rats and mice in drinking water caused malignant tumors, the two-year study by the NIH's National Toxicology Program or NTP found. "In the rats we saw oral cavity tumors," said Michelle Hooth, who worked on the report. "In the mice we saw tumors in the small intestine."

Hooth said the animals were given much higher doses of chromium than people would ever encounter in drinking water, which is the usual practice in testing chemicals for cancer-causing potential.

#### INDUSTRIAL USES

Hexavalent chromium compounds are often used in electroplating, leather tanning and textile manufacturing and have been found in some drinking water sources, the NTP said. Brockovich started investigations in 1991 into exposure to chromium 6 in drinking water in the town of Hinkley, California. In 1996, she and lawyer Ed Masry won a landmark \$333 million settlement with Pacific Gas and Electricity over claims of toxic exposure. Brockovich said on Wednesday she had settled another lawsuit with PG&E involving the contaminant last year. But she said there were potentially dozens more toxic sites around the country.

The lowest doses given to rats and mice in the study were 10 times higher than what humans could consume from the most highly contaminated water sources identified at Hinkley, the researchers said.

From 1987 to 1993, according to the Toxics Release Inventory, chromium compound releases to land and water in various U.S. states totaled nearly 200 million pounds. "The chromium industry has been trying to convince regulators for years that hexavalent chromium is actually quite safe when consumed via drinking water, even though it has

long been known to be carcinogenic when inhaled," said Renee Sharp, a senior analyst at the Environmental Working Group.

"NTP's findings will finally allow state and federal regulators to set drinking water standards based on up-to-date sound science, rather than having to rely on old, inadequate, and/or biased studies often funded by chromium polluters," added Sharp, whose group has lobbied for tighter regulation of chromium and other chemicals. (Additional reporting by Maggie Fox in Washington)

## USA TODAY

### **Chemical can cause cancer when ingested**

**By Elizabeth Weise,**

The chemical featured in the 2000 movie *Erin Brockovich*, hexavalent chromium, caused cancer in laboratory animals that drank it in their water, according to a study published by the National Institute of Environmental Health Sciences.

Hexavalent chromium was a commonly used industrial chemical until the early 1990s. It is still used in some applications, such as chrome plating and the making of dyes and plastics. It's long been known that it can cause lung cancer when inhaled, but whether it is a carcinogen when ingested was unknown.

The National Toxicology Program studied the male and female rats and mice for two years. The rats developed malignant tumors in the palate and tongue. The mice developed benign and malignant tumors in the small intestine, toxicologist Michelle Hooth says.

The levels given ranged from 10 to several hundred times higher than people would face even in highly contaminated water sources in the USA, she says.

It had been thought that the stomach broke the chemical down into a less toxic form. Finding tumors in the small intestine was "surprising," Hooth says.

Environmental Protection Agency limits on chromium in drinking water are one part per billion. "Now that the NTP has released their final study, we will evaluate the results and determine whether the agency needs to update the existing health assessment," the agency said in a release.